What's NEXT?

The Nationwide Evaluation of X-ray Trends (NEXT) is a national program conducted annually to measure the x-ray exposure that a standard patient receives for selected x-ray examinations. This program is conducted jointly by the Conference of Radiation Control Program Directors (CRCPD), an association of state and local radiation control agencies, and the Food and Drug Administration's (FDA) Center for Devices and Radiological Health (CDRH).

Facilities are randomly selected and the surveys are performed by personnel from the participating states. Each projection is surveyed utilizing a clinically validated exposure equivalent phantom representing a standard reference patient. This standard NEXT patient stands 172 cm (5 ft, 8 in) in height, and weighs 74.5 kg (164 lbs). The phantom used for abdomen and LS spine surveys is equivalent to a patient thickness, measured P/A, of 23 cm (9 in).

In 1995 the selected examinations were the abdomen and LS spine. Over 300 facilities were surveyed, with the sample divided nearly equally between hospital and non-hospital facilities. Specific information was obtained pertaining to the equipment, facility work load, and radiographic technique. Information related to dose was also collected such as film/screen combination, grid use, beam quality, x-ray output, and the quality of film processing. The procedure followed in 1995 was essentially the same as that used for the 1987 and 1989 NEXT abdomen and LS spine studies.

The information contained herein is for guidance. The implementation and use of the information and recommendations are at the discretion of the user. The mention of commercial products, their sources, or their use in connection with material reported is not to be construed as either an actual or implied endorsement by CRCPD or CDRH.

SURVEY RESULTS

YOUR FACILITY

Abdomen

kVp _____

ESE (mR) _____

Processing Speed
STEP* Test Result _____

Darkroom Fog _____

Phantom Film OD _____

Holes / Meshes _____

LS Spine

kVp _____

ESE (mR) _____

Processing Speed
STEP* Test Result _____

Darkroom Fog _____

Phantom Film OD _____

Holes / Meshes _____

*Sensitometric Technique for the Evaluation of Processing

Nationwide

Evaluation of X-Ray Trends (NEXT)

1995 Abdomen and LS Spine X-Ray Data

Conference of Radiation Control Program Directors

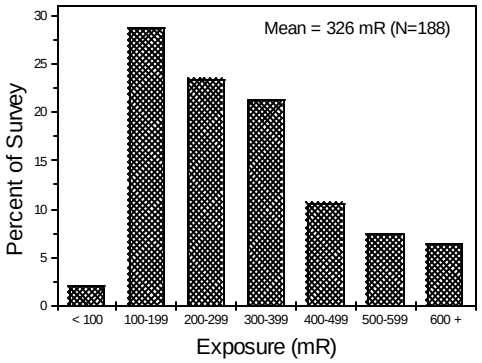
and

The Center for Devices and Radiological Health

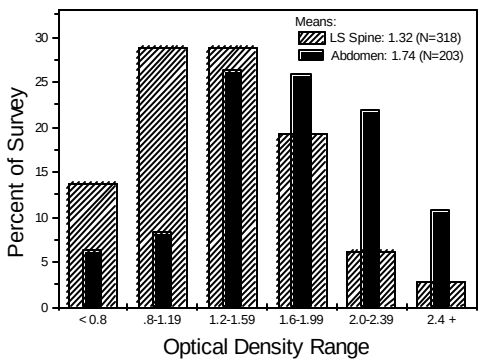
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Food and Drug Administration

Rev. 5/16/01

Abdomen Entrance Skin Exposure



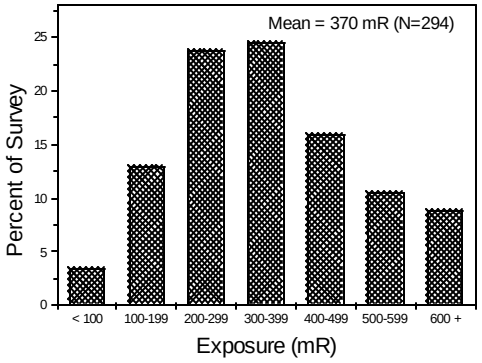
Phantom Film Optical Density



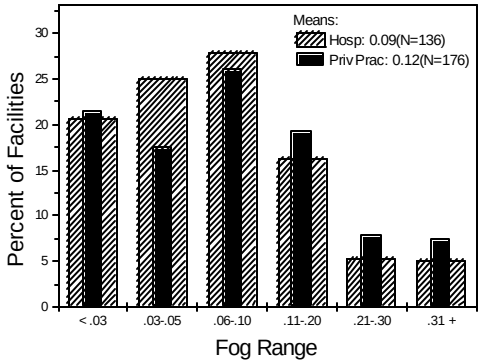
1995 Abdomen Summary

	Mean	Std Dev
Tube Current	342	147
KVp	76	6
HVL (mm Al)	3.0	0.7
ESE (mR)	326	202
Phantom Film OD	1.74	0.56
Holes Visible	4.8	1.1
Meshes Visible	4.0	0.9

LS Spine Entrance Skin Exposure



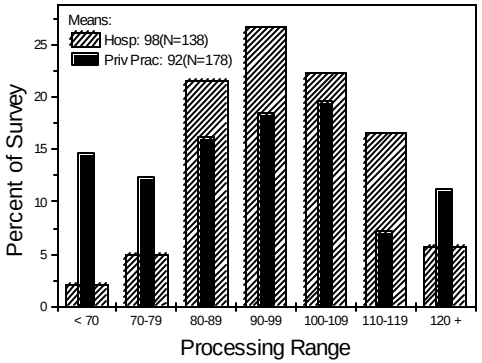
Darkroom Fog



1995 LS Spine Summary

	Mean	Std Dev
Tube Current	294	150
KVp	78	6
HVL (mm Al)	3.1	0.6
ESE (mR)	370	229
Phantom Film OD	1.32	0.52
Holes Visible	3.7	1.3
Meshes Visible	3.5	1.0

Processor Speed



Film Processing

	Hospital	Private Practice
Mean	98	92
Std Deviation	15	24
Percent < 90	29	43
Percent < 80	7.2	27
Percent < 60	0	7.3

normal processing range: 80 to 120

Darkroom Fog

	Hospital	Private Practice
Mean	0.09	0.12
Std Deviation	0.11	0.14
Percent > 0.05	54.4	60.8
Percent > 0.10	26.5	34.7